Structures Challenge – The Egg Drop!!!

Names:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Purpose:**

Your challenge is to create a manufactured structure to protect a nature structure of shell design – your egg!

With a partner, design a structure that will withstand the force of impact as gravity acts on your egg. Your mission is to prevent the egg from breaking as it free falls from the highest place in the classroom that Mrs.Kidd can reach.

**Question:** How can we use our knowledge of structures to protect our egg from free fall? What type of structure or combination of structure will keep our egg from breaking?

**Hypothesis:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Materials:** In real life, supplies are often limited and we have to use technology and our knowledge of design to perform specific functions. Each group will only have

1 black plastic bag

2 zip bags

1 Styrofoam plate

3 straws

2 pieces of paper

2 meters string

30 cm masking tape

**Procedure and Observations:**

Please describe how you created your structure.

* Include directions and a diagram so that it can be recreated.
* Identify the type of structure you used in your design (Mass structure, Frame Structure, or Shell structure). *Please refer to your notes for examples and definitions of these types of structures.*  You may want to use just one type of structure or you may want to use a combination of different types.
* Explain WHY you chose the type of structure and what its role is in protecting your egg

**Results: Was your structure successful in protecting your egg? Why or why not?**

**Conclusion: Was your hypothesis correct? Why or why not?**

**Considerations for the future:**

What would you change in your experiment?

What would you keep?

Did any other group have good ideas that you could use in future designs? Please explain.